

FIG. 1A

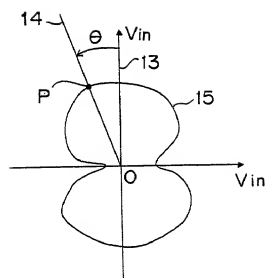


FIG. 1B

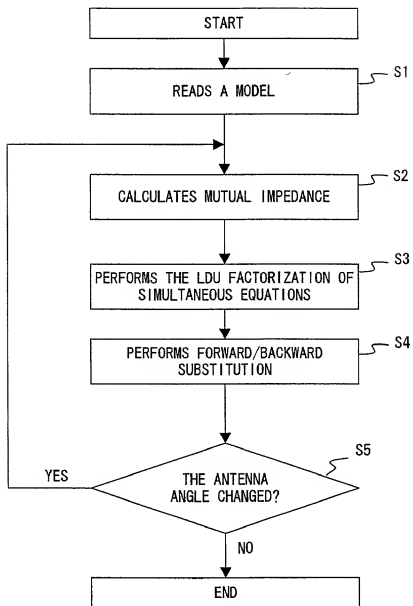


FIG. 1C

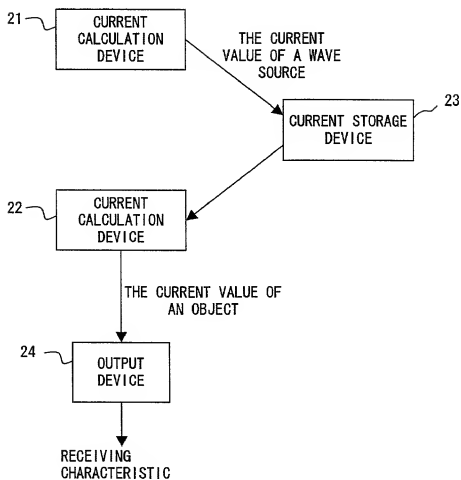


FIG. 2A

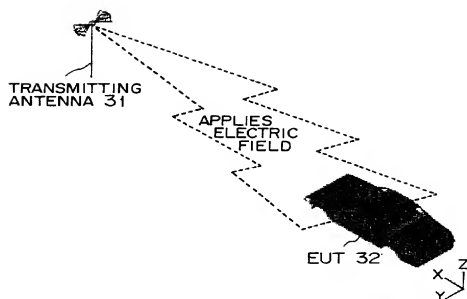


FIG. 2B

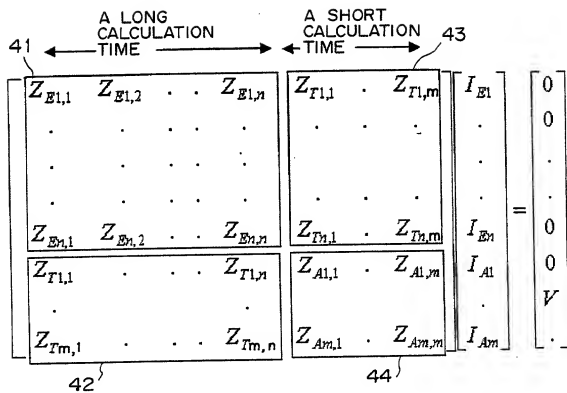


FIG. 3

$$\begin{bmatrix} Z_{A1,1} & \cdot & Z_{A1,m} \\ Z_{Am,1} & \cdot & Z_{Am,m} \end{bmatrix} \begin{bmatrix} I_{A1} \\ \cdot \\ I_{Am} \end{bmatrix} = \begin{bmatrix} 0 \\ V \\ \cdot \end{bmatrix}$$

FIG. 4

$$\begin{bmatrix} Z_{E1,1} & Z_{E1,2} & \cdot & \cdot & Z_{E1,n} \\ \cdot & \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot & \cdot \\ Z_{E1,1} & Z_{E1,2} & \cdot & \cdot & Z_{E1,n} \end{bmatrix} \begin{bmatrix} I_{E1} \\ \cdot \\ \cdot \\ \cdot \\ I_{E1} \end{bmatrix} = - \begin{bmatrix} I_{A1} * Z_{T1,1} + I_{A2} * Z_{T1,2} + \dots I_{Am} * Z_{T1,m} \\ \cdot \\ \cdot \\ \cdot \\ I_{A1} * Z_{Tn,1} + I_{A2} * Z_{Tn,2} + \dots I_{Am} * Z_{Tn,m} \end{bmatrix}$$

FIG. 5

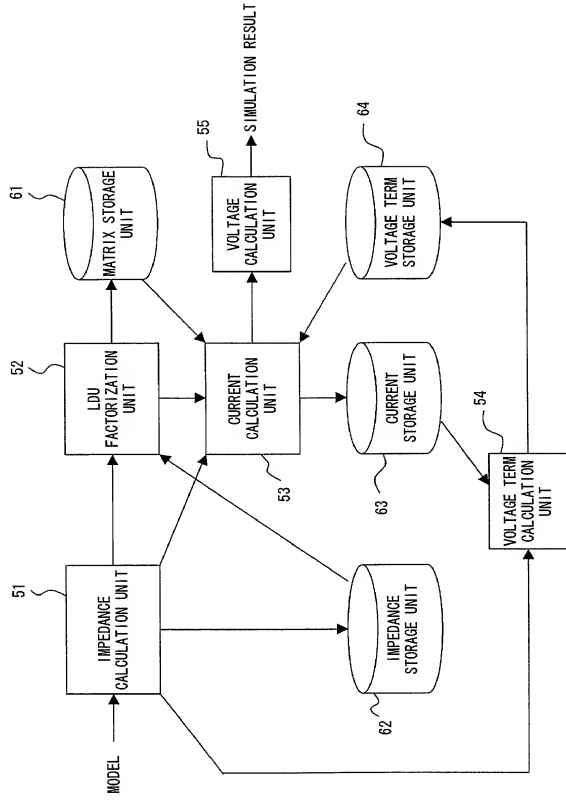


FIG. 6

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graph TD
    START([START]) --> S11{AVAILABLE?}
    S11 -- YES --> S12[READS A MODEL]
    S11 -- NO --> S21[CONVENTIONAL CURRENT CALCULATION]
    S12 --> S13[CALCULATES TRANSMITTING ANTENNA MUTUAL IMPEDANCE]
    S13 --> S14[CALCULATES TRANSMITTING ANTENNA CURRENTS]
    S14 --> S15[CALCULATES EUT MUTUAL IMPEDANCE]
    S15 --> S16[PERFORMS LDU FACTORIZATION]
    S16 --> S17[CALCULATES VOLTAGE TERMS]
    S17 --> S18{THE ANTENNA ANGLE CHANGED?}
    S18 -- YES --> S17
    S18 -- NO --> S19[CALCULATES EUT CURRENTS BY FORWARD/BACKWARD SUBSTITUTION]
    S19 --> S20[OUTPUTS EUT VOLTAGE]
    S21 --> S20
    S20 --> END([END])
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FIG. 7

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graph TD
    START([START]) --> S31[READS A MODEL]
    S31 --> S32[CALCULATES TRANSMITTING ANTENNA  
MUTUAL IMPEDANCE]
    S32 --> S33[CALCULATES EUT MUTUAL IMPEDANCE]
    S33 --> S34[CALCULATES THE MUTUAL IMPEDANCE  
OF BOTH THE TRANSMITTING ANTENNA  
AND EUT]
    S34 --> S35[GENERATES A MUTUAL IMPEDANCE  
MATRIX]
    S35 --> S36[PERFORMS THE LDU FACTORIZATION OF  
SIMULTANEOUS EQUATIONS]
    S36 --> S37[PERFORMS FORWARD/BACKWARD  
SUBSTITUTION]
    S37 --> S38{THE ANTENNA ANGLE  
CHANGED?}
    S38 -- YES --> S34
    S38 -- NO --> S39[OUTPUTS EUT VOLTAGE]
    S39 --> END([END])
  
```

FIG. 8

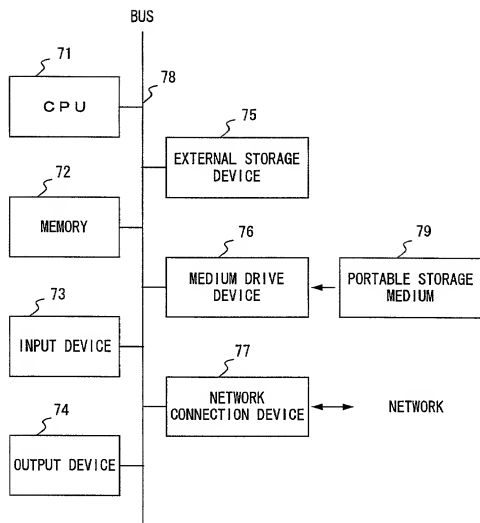


FIG. 9

FIG. 10

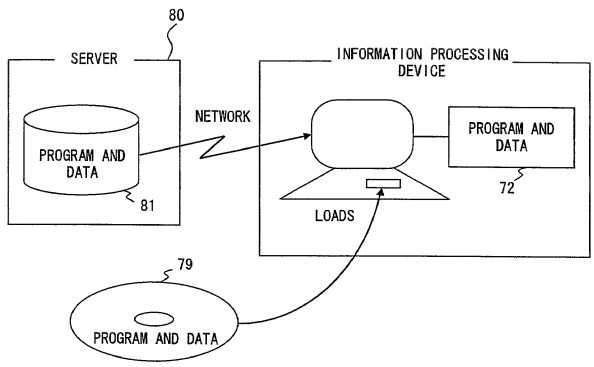


FIG. 10